Amendments to the Specification:

Please replace the section titled BRIEF DESCRIPTION OF THE DRAWINGS beginning on Page 6 at line 8 and ending on Page 6 at line 19 with the following amended section:

## BRIEF DESCRIPTION OF THE DRAWINGS

The novel features of this invention, as well as the invention itself, both as to its structure and its operation, will be best understood from the accompanying drawings, taken in conjunction with the accompanying description, in which similar reference characters refer to similar parts, and in which:

Fig. 1 is a simplified perspective view showing an intelligent passive navigation system mounted on an airborne platform and oriented to receive signals from three exemplary ground-based emitters; [[and]]

Fig. 2 is a simplified schematic diagram showing the components of an intelligent passive navigation system for use in determining the geolocation of an airborne platform[[.]]; and

Fig. 3 is a flow chart diagram illustrating a method for passive navigation.

Please replace the paragraph beginning on Page 8 at line 25 and ending on Page 9 at line 9 with the following amended paragraph:

For the system 10, the database 26 is pre-programmed with information regarding each emitter 22 (and its respective signal 20) that is accessible and usable by the system 10 <u>(see also box 100, Fig. 3)</u>. In greater detail, the database 26 includes information regarding the geolocation of each ground-based emitter 22. Typically, the geolocation information includes the latitude, longitude and altitude of the emitter 22, but it is to be appreciated that some other coordinate system can be used to identify the geolocation of each emitter 22. Additionally, the database 26 includes information to allow the system 10 to identify each signal 20 distinctly from the other signals 20. More specifically, the database 26 includes at least one identifying signal characteristic, which is typically a characteristic operating factor of the particular signal 20. Identifying signal characteristics that can be pre-programmed into the database 26 can include, but are not necessarily limited to one or more of the following: signal frequency, signal bandwidth, signal waveform and signal strength. Thus, using the database 26, the computer 24 can use an identifying signal characteristic of a signal 20 to determine the geolocation of the emitter 22 that has transmitted the particular signal 20.

Please replace the paragraph beginning on Page 9 at line 10 and ending on Page 9 at line 20 with the following amended paragraph:

As further shown, the system 10 further includes an antenna array 28 and a digital receiver 30, both of which are positioned on the airborne platform 12. Signals 20 are passively received by the antenna array 28 and then sent to the receiver 30 via link 32 (see also box 102, Fig. 3). The receiver 30 communicates with the on-board computer 24 via link 34. In functional overview, the antenna array 28, receiver 30 and computer 24 cooperate to receive signals 20 from one or more emitters 22, determine a direction of arrival (DOA) for selected received signals 20 and determine the geolocation of each emitter 22 that corresponds to each of the selected received signals 20. The DOA(s) and emitter geolocation(s) are then processed by the computer 24 in an algorithm to determine the geolocation of the airborne platform 12.

Please replace the paragraph beginning on Page 9 at line 21 and ending on Page 9 at line 31 with the following amended paragraph:

In greater detail, signals 20 received by the antenna array 28 are sent to the digital receiver 30 which scans by frequency and then sequentially isolates selected signals 20 from selected emitters 22 (see also box 104, Fig. 3). The isolated signals 20 are then converted into a digital complex data stream which is then communicated to the computer 24 via link 34. Thus, the receiver 30 includes a frequency scanning capability that is typically controlled by inputs to the receiver 30 from the computer 24 via link 34. Additionally, the receiver 30 includes an analog to digital (A/D) conversion circuit to create the digital complex data stream. Typically, the receiver 30 also includes the capability of determining a center frequency for each selected received signal 20 and includes the center frequency in the digital complex data stream.

Please replace the paragraph beginning on Page 10 at line 1 and ending on Page 10 at line 8 with the following amended paragraph:

The computer 24 receives the digital complex data stream from the receiver 30 and extracts one or more identifying signal characteristics from the data stream. The computer 24 is programmed to query the pre-programmed data in the database 26 for the extracted identifying signal characteristics. The query results in the database record for the selected emitter signal 20 which includes the emitter geolocation that corresponds to the selected signal 20 <u>(see also box 106, Fig. 3)</u>. This process is continued until an emitter geolocation is determined for each selected signal 20.

Please replace the paragraph beginning on Page 10 at line 9 and ending on Page 10 at line 28 with the following amended paragraph:

As indicated above, the computer 24 also calculates a DOA for selected received signals 20 (see also box 108, Fig. 3). Fig. 1 shows a typical implementation in which directions of arrival $\alpha_1$, $\alpha_2$, $\alpha_3$ for respective signals 20a, 20b and 20c are measured relative to a suitable reference line, in this case a line corresponding to the flight path 14. In some implementations, each direction of arrival, $\alpha$, is measured in terms of components such as a horizontal and vertical component. To measure the DOA for each selected signal 20, the antennal array 28 for the system 10 includes a plurality of antenna elements 36 (e.g. individual antennas) of which exemplary antenna elements 36a-e have been labeled. In one implementation, the computer 24 is programmed to use the phase differences between signal portions arriving at individual antenna elements 36 within the antenna array 28 to determine the DOA for the selected signal 20. In greater detail, when a signal 20 reaches the antenna array 28, each antenna element 36 will receive a signal portion that is at a slightly different phase angle relative to signal portions received at the other individual antenna elements 36. These phase differences can then be processed to determine the DOA for the selected signal 20. As an alternative to using an antenna array 28 with multiple antenna elements 36, the system 10 could employ a scanning single element antenna (not shown) to measure phase at several scan angles to determine a DOA.

Please replace the paragraph beginning on Page 10 at line 29 and ending on Page 11 at line 3 with the following amended paragraph:

The DOA and emitter geolocation for each selected signal 20 provides position information for the airborne platform 12 <u>(see also box 110, Fig. 3)</u>. The DOA and emitter geolocation for two or more selected signals 20 can be processed by the computer 24 using a triangulation-type algorithm to estimate a geolocation of the airborne platform 12. In a typical embodiment, three or more selected signals 20 are processed by the computer 24 using a triangulation-type algorithm to obtain an initial geolocation estimate.